

## CLAIMS

- 1    1. A cross media error protection system for multimedia data having a plurality of media streams of different type, the system comprising:
  - 3       a packaging system for packaging the multimedia data into discrete packets,
  - 4       wherein each packet includes a plurality of fields, and wherein data segments from each
  - 5       of the media streams are placed into different ones of the plurality of fields; and
  - 6       an insertion system for inserting error protection data into one of the plurality of
  - 7       fields in each packet.
  
- 1    2. The cross media error protection system of claim 1, wherein a size of each of the plurality of fields is proportional to a size of each of the plurality of media streams.
  
- 1    3. The cross media error protection system of claim 1, wherein a size of each of the plurality of fields is set at predetermined proportions.
  
- 1    4. The cross media error protection system of claim 1, wherein the plurality of media streams are selected from the group consisting of audio, video, graphics, and text.
  
- 1    5. The cross media error protection system of claim 1, further comprising a decoder for  
2       decoding the discrete packets of multimedia data.

1       6. An encoder for packaging multimedia data having a first and a second type of media  
2       stream, comprising:

3               means for packaging the multimedia data into discrete packets, wherein each  
4       packet includes a first field for holding a segment of the first type of media, a second  
5       field for hold a segment of the second type of media stream, and a third field for holding  
6       error protection data;

7               wherein the sizes of the first and second field are proportional to the sizes of the  
8       first and second media stream.

1       7. The encoder of claim 6, wherein the first and second type of media streams are  
2       selected from the group consisting of audio, video, text, and graphics.

1       8. A decoder for unpackaging multimedia data having a first and a second media stream  
2       of different type, the decoder comprising:  
3               means for reading multimedia data from discrete packets, wherein each packet  
4       includes a first field having a segment from the first media stream, a second field having  
5       a segment from the second media stream, and a third field having error protection data;  
6               wherein the sizes of the first and second field are proportional to the sizes of the  
7       first and second media stream.

1       9. The decoder of claim 8, wherein the first and second type of media streams are  
2       selected from the group consisting of audio, video, text, and graphics.

1       10. A method for providing cross media error protection for multimedia data, the method  
2       comprising:

3           receiving multimedia data having a plurality of media streams, each of a different  
4       type;

5           determining a size of each media stream;

6           packaging the multimedia data into a plurality of discrete packets, wherein each  
7       discrete packet includes a data segment from each of the media streams, and wherein a  
8       size of each packet is proportional to the size of each media stream; and

9           inserting error protection data into each packet.

1       11. The method of claim 10, wherein each of the discrete packets have a same size.

1       12. The method of claim 10, comprising the further step of transmitting the discrete  
2       packets.

1       13. The method of claim 12, comprising the further step of decoding the discrete packets  
2       back into the plurality of media streams.

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- 1    14. A program product stored on a recordable media for providing cross media error
- 2    protection for multimedia data, the program product comprising:
  - 3        program code configured to receive multimedia data having a plurality of media
  - 4        streams, each of a different type;
  - 5        program code configured to determine a size of each media stream;
  - 6        program code configured to package the multimedia data into a plurality of
  - 7        discrete packets, wherein each discrete packet includes a data segment from each of the
  - 8        media streams, and wherein a size of each packet is proportional to the size of each media
  - 9        stream; and
  - 10        program code configured to insert error protection data into each packet.
- 1    15. The program product of claim 14, where the size of each media stream is determined
- 2    over a predetermined interval of time.
- 1    16. The program product of claim 14, where the size of each media stream is estimated.